UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS

P O Box 1450 Alexandria, Virgima 22313-1450 www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

20995 7590 12/04/2008
KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTERNITH FLOOR

IRVINE, CA 92614

EXAMINER
CHU, JOHN S Y

ART UNIT PAPER NUMBER
1795

DATE MAILED: 12/04/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/540,056	06/22/2005	Kazufumi Sato	SHIGA7.021APC	1274		
TITLE OF INVENTION: POSITIVE RESIST COMPOSITION AND METHOD FOR FORMING RESIST PATTERN						

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	03/04/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT, PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 1SI. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FFE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450

or Fax (571)-273-2885

appropriate. All further indicated unless corrects maintenance fee notifica	correspondence includir ed below or directed oth	or transmitting the 188 ig the Patent, advance nerwise in Block 1, by	orders and notification of r (a) specifying a new corre	naintenance fees wi spondence address;	ill be and/or	mailed to the current (b) indicating a sepa	
CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)				e: A certificate of r (s) Transmittal. This ers. Each additional e its own certificate	nailing certif paper of mai	can only be used for icate cannot be used for such as an assignment ling or transmission.	or domestic mailings of the for any other accompanying ent or formal drawing, mus
2040 MAIN STI FOURTEENTH	FLOOR			Cont	ificate	of Moiling or Trope	
IRVINE, CA 92	614						(Depositor's name)
			<u> </u>				(Signature)
			L				(Date)
APPLICATION NO.	FILING DATE		FIRST NAMED INVENTOR		ATTO	RNEY DOCKET NO.	CONFIRMATION NO.
10/540,056	06/22/2005		Kazufumi Sato		SI	HIGA7.021APC	1274
			ETHOD FOR FORMING R				
APPLN, TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE	FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0		\$1810	03/04/2009
EXAM	IINER	ART UNIT	CLASS-SUBCLASS	J			
CHU, JO		1795	430-270100				
1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363). Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attacked. Fee Address' indication (or "Fee Address" indication form PTO/SB/47 evo -302 or more recent) attached. Use of a Custome Number is required. Namber is required. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED O			2. For printing on the patent front page, list (1) the annes of up to 3 registered patent attorneys or agents OR, alternatively (2) the anne of a single firm thaving as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agent). If no name is listed, no name will be printed.				
	less an assignee is ident h in 37 CFR 3.11. Comp GNEE	ified below, no assigne pletion of this form is N	e data will appear on the p OT a substitute for filing an (B) RESIDENCE: (CITY	atent. If an assigne assignment. and STATE OR Co	OUNT	'RY)	ocument has been filed for
4a. The following fee(s) Issue Fee Publication Fee (N	vo small entity discount p		4b. Payment of Fee(s): (Ples A check is enclosed. Payment by credit car The Director is hereby overpayment, to Depe	d. Form PTO-2038	is atta	ched.	shown above) rficiency, or credit any n extra copy of this form).
- 11	s SMALL ENTITY state	as. See 37 CFR 1.27.	☐ b. Applicant is no lon				
NOTE: The Issue Fee an interest as shown by the	d Publication Fee (if req records of the United Sta	uired) will not be accept ites Patent and Tradema	ted from anyone other than t rk Office.	he applicant; a regis	tered a	attorney or agent; or th	ne assignee or other party in
Authorized Signature				Date			
Typed or printed name			Registration No	D			
This collection of inform an application. Confiden submitting the complete this form and/or suggests Box 1450, Alexandria, V Alexandria, Virginia 223	nation is required by 37 C tiality is governed by 35 d application form to the ions for reducing this but 'irginia 22313-1450. DC k13-1450.	CFR 1.311. The informat U.S.C. 122 and 37 CFE USPTO. Time will var den, should be sent to to O NOT SEND FEES OR	tion is required to obtain or r R 1.14. This collection is est ry depending upon the indivi the Chief Information Office R COMPLETED FORMS To	retain a benefit by the timated to take 12 m ridual case. Any cor- er, U.S. Patent and 1 D THIS ADDRESS.	ne publ ninutes mment Fraden SENI	ic which is to file (and to complete, includir s on the amount of ti- nark Office, U.S. Dep D TO: Commissioner	d by the USPTO to process ng gathering, preparing, and me you require to complete artment of Commerce, P.O for Patents, P.O. Box 1450

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS

P O Box 1450 Alexandria, Virgima 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.		
10/540,056	06/22/2005	Kazufumi Sato	SHIGA7.021APC	1274		
20995 75	90 12/04/2008		EXAM	INER		
KNOBBE MAR	TENS OLSON & BE	CHU, JOHN S Y				
2040 MAIN STRE		ART UNIT	PAPER NUMBER			
FOURTEENTH FLOOR IRVINE, CA 92614			1795			
IR VINE, CA 9201	4		DATE MAILED: 12/04/2008			

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 0 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 0 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Application No. Applicant(s) 10/540,056 SATO ET AL. Notice of Allowability Examiner Art Unit JOHN S. CHU 1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence addressve

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REN herewith (or previously mailed), a Notice of Allowance (PTOL-55) or other: NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. To of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPI	appropriate communication will be mailed in due course. THIS This application is subject to withdrawal from issue at the initiati
This communication is responsive to	
2. ☑ The allowed claim(s) is/are <u>1 and 6-20</u> .	
3. ☑ Acknowledgment is made of a claim for foreign priority under 35 U a) ☑ All b) ☐ Some* c) ☐ None of the: 1. ☐ Certified copies of the priority documents have been reconstance. 2. ☐ Certified copies of the priority documents have been reconstance. 3. ☑ Copies of the certified copies of the priority documents International Bureau (PCT Rule 17.2(a)).	ceived.
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this conoted below. Failure to timely comply will result in ABANDONMENT of the THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.	
 A SUBSTITUTE OATH OR DECLARATION must be submitted. Not INFORMAL PATENT APPLICATION (PTO-152) which gives reason 	
CORRECTED DRAWINGS (as "replacement sheets") must be subn (a) including changes required by the Notice of Draftsperson's Pate 1) hereto or 2) to Paper No./Mail Date (b) including changes required by the attached Examiner's Amendi Paper No./Mail Date Identifying indicia such as the application number (see 37 CFR 1.84(c)) she each sheet. Replacement sheet(s) should be labeled as such in the header	ent Drawing Review (PTO-948) attached ment / Comment or in the Office action of ould be written on the drawings in the front (not the back) of
 DEPOSIT OF and/or INFORMATION about the deposit of BIG attached Examiner's comment regarding REQUIREMENT FOR THE 	
Attachment(s) 1.	5. Notice of Informal Patent Application 6. Interview Summary (PTO-413), Paper No./Mail Date 7. Examiner's Amendment/Comment 8. Examiner's Statement of Reasons for Allowance 9. Other

Application/Control Number: 10/540,056 Page 2

Art Unit: 1795

REASONS FOR ALLOWANCE

 The following is an examiner's statement of reasons for allowance: The claimed invention is drawn to the following:

- 1. (Currently amended) A positive resist composition comprising:
- a resin component (A) containing an acid dissociable dissolution inhibiting group whose alkali solubility increases under action of acid; and
- an acid generator component (B) that generates acid on exposure, wherein

the resin component (A) is a copolymer comprising a first structural unit (a1) derived from a hydroxystyrene and a second structural unit (a2) derived from a (meth)acrylate ester containing an alcoholic hydroxyl group, in which 10 mol% or more and 25 mol% or less of a combined total of hydroxyl groups within the structural units (a1) and alcoholic hydroxyl groups within the structural units (a2) are protected with the acid dissociable dissolution inhibiting groups.

- a weight average molecular weight of the copolymer prior to protection with the acid dissociable dissolution inhibiting groups is $2,000 \, \underline{4,000}$ or more and $\underline{8,500} \, \underline{8,000}$ or less,
- a molar ratio between the first structural units (a1) and the second structural units (a2) within the resin component (A) prior to protection with the acid dissociable dissolution inhibiting groups is within a range from 80:20 to 70:30,
- the second structural unit (a2) is derived from a (meth)acrylate ester containing an adamantyl group with an alcoholic hydroxyl group, and
 - the acid dissociable dissolution inhibiting group is a 1-lower alkoxyalkyl group.
- 2. Applicants have amended the claims in accordance with the subject matter indicated to be allowable if written in independent form as expressed in the previous Office action. The positive resist composition as claimed is not anticipated or rendered obvious over the prior art references of record. The combination of the copolymer having the two structural units with the specific molecular weights along with 10 mol % 25 mol% of the hydroxyl groups protected with the acid dissociable dissolution inhibiting groups is not disclosed in the prior art references of record.
- 3. Accordingly, claims 1, and 6-20 are seen as allowable and passed to issue.

Application/Control Number: 10/540.056

Art Unit: 1795

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance"

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526

The fax phone number for the USPTO is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

> /John S. Chu/ Primary Examiner, Art Unit 1795

J.Chu

November 24, 2008